

4. The turbine engine component of claim 1, wherein said at least one turbine engine component comprises said bypass fan duct having an interior surface comprising at least one aperture.

5. The turbine engine component of claim 4, wherein in addition to said bypass fan duct said at least one turbine engine component comprises any one of the following: a turbine exhaust case, a turbine exhaust nozzle, and a bypass air valve support.

6. The turbine engine component of claim 5, wherein said turbine engine component comprises said turbine exhaust case having an exterior surface with at least one aperture.

7. The turbine engine component of claim 5, wherein said turbine engine component comprises said turbine exhaust nozzle having an exterior surface with at least one aperture.

8. The turbine engine component of claim 5, wherein said turbine engine component comprises said bypass air valve support having an exterior surface with at least one aperture.

9. A process for controlling fan stream flow bypass of a turbofan engine, comprising:

providing a turbine engine component having a surface including at least one aperture, and located from between a bypass fan duct and a turbine exhaust nozzle of the turbofan engine;

providing a bypass air valve having a surface including at least one aperture and at least one impermeable region, and concentrically disposed about said turbine engine component and parallel to a centerline of the turbofan engine;

introducing a fan exhaust stream flow into the turbofan engine;

actuating said bypass air valve to substantially align said at least one aperture of said bypass air valve with said at least one aperture of said turbine engine component; and permitting flow transfer by substantially aligning said at least one apertures and transferring said fan exhaust

stream flow into a turbine exhaust stream flow of the turbofan engine at a flow transfer location.

10. The process of claim 9, wherein actuating said bypass air valve comprises rotating said bypass air valve about said turbine engine component.

11. The process of claim 9, wherein actuating said bypass air valve comprises moving said bypass air valve in a forward direction or a backward direction parallel to the centerline along the turbine engine component.

12. The process of claim 9, wherein permitting said flow transfer further comprises effectively increasing a fan exhaust stream nozzle area within said fan exhaust stream flow without altering a fan exhaust nozzle and effectively decreasing a turbine exhaust stream nozzle area within said turbine exhaust stream flow without altering a turbine exhaust nozzle.

13. The process of claim 9, further comprising the steps of: actuating said bypass air valve to substantially align said at least one impermeable region with said at least one aperture of said turbine engine component; and ceasing the transfer of said fan exhaust stream flow into said turbine exhaust stream flow.

14. The process of claim 13, wherein ceasing the transfer further comprises effectively decreasing a fan exhaust stream nozzle area within said fan exhaust stream flow without altering a fan exhaust nozzle and effectively increasing a turbine exhaust stream nozzle area within said turbine exhaust stream flow without altering a turbine exhaust nozzle.

15. The process of claim 9, further comprising increasing a design bypass ratio to increase the ratio of a fan exhaust stream pressure to a turbine exhaust stream pressure.

16. The process of claim 9, further comprising selecting a flow transfer location exhibiting an increased Mach Number to provide an increased ratio of a total pressure to a static pressure at said flow transfer location.

* * * * *